PÖLWAX®

Technical Datasheet

INDUSTRIAL LUX / LIGHT INTENSITY TRANSMITTER
Atmos SERIES - LX50

Modbus

INDUSTRIAL LUX / LIGHT INTENSITY TRANSMITTER

The Polwax Lux Transmitter Model LX50 is a state-of-the-art light intensity monitoring device designed to deliver high-precision lux measurement in various environments. It is engineered for industrial automation, environmental monitoring, and smart lighting applications. The LX50 features advanced sensor technology that ensures accuracy and reliability while offering seamless integration with modern IoT systems via Modbus RTU (Rs485), Analog (4-20mA, 0-10V), and MQTT over Wi-Fi.With its robust IP65-rated housing, the LX50 can be deployed in both indoor and outdoor environments, making it suitable for smart lighting, greenhouses, warehouses, museums, and factory automation. Its real-time data transmission capabilities allow industries to optimize lighting conditions, reduce energy consumption, and enhance operational efficiency.

Features

- Easy to Install and suitable for Wall Mounting
- High Accuracy and Stability
- Wide Measuring Range
- Output Signal : 4 - 20 mA / 0 - 10 V
- Inbuilt Buzzer
- Protection Rating: IP65 for outdoor and harsh environment use
- Low Power Consumption
- Compact and Durable Design
- User-Friendly Configuration
- Energy Efficient
- Integrated Temperature Compensation
- Easy Integration
- Ruggedized Enclosure
- Advanced Communication RS-485
- Compact Design

Why Choose Polwax lux Transmitter?

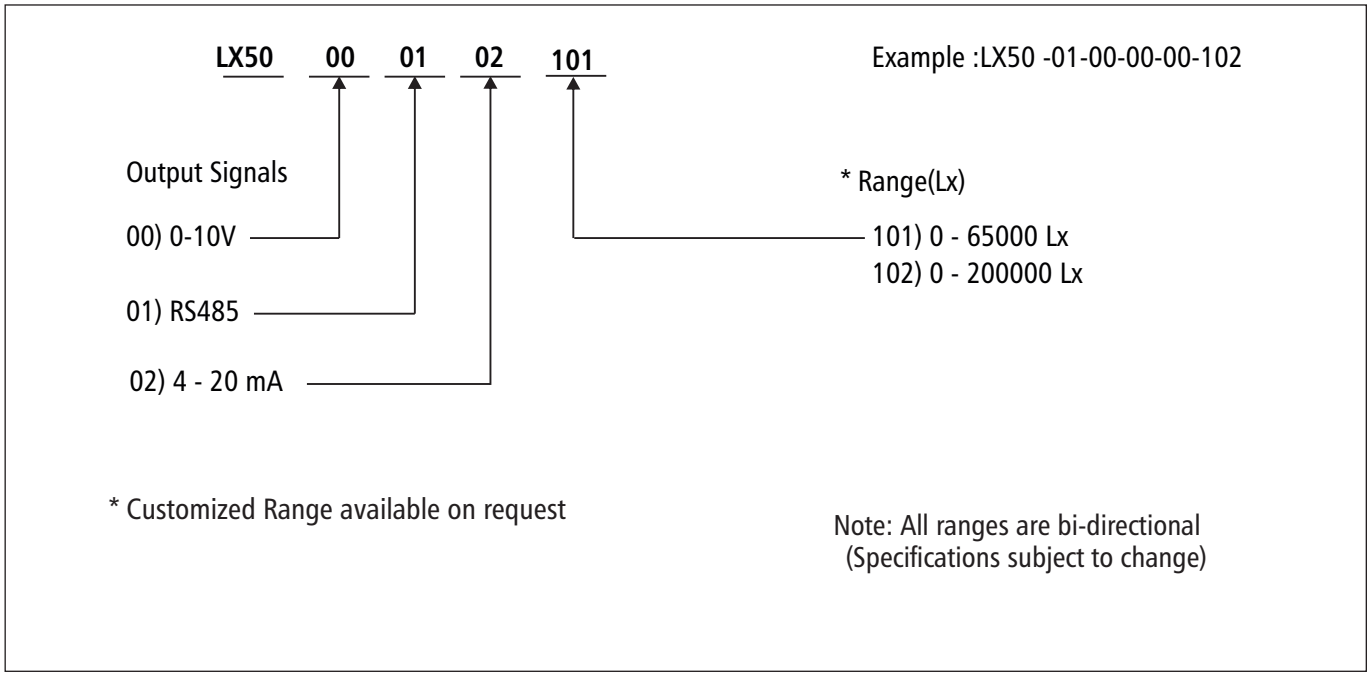
High-precision photodiode sensor for accurate lux measurement.
Multiple output options: 4-20mA, 0-10V & RS485 (Modbus RTU)
Real-time data monitoring for dynamic lighting control applications.
Industrial-grade durability with an IP65-rated enclosure.
Seamless IoT connectivity for remote monitoring and automation.
Energy-efficient design with low power consumption.
Easy installation with plug-and-play configuration.

Technical Details

Measurement Range	0 to 65000 Lux / 0 to 200,000 Lux
Accuracy	±2% of reading
Resolution	1 Lux
Response Time	≤30 seconds
Sensor Type	High-precision photodiode
Output Options	4-20mA, 0-10V, RS485 (Modbus RTU)
Power Supply	12V-24V DC
Response Time	< 1 second
Operating Temperature	-10°C to 60°C
Storage Temperature	-20°C to 80°C
Humidity Range	0-95% RH (non-condensing)
Protection Rating	Ip65 (water-resistant and dustproof)
Output Signals	Rs485 (Modbus RTU), 4-20mA, 0-5V, 0-10V
Mounting Options	Wall mount, Pole mount, DIN rail
Communication Protocols	MODBUS RTU
Housing Material	Industrial-grade ABS/Aluminum alloy
Process Connection	High-strength, dustproof, waterproof

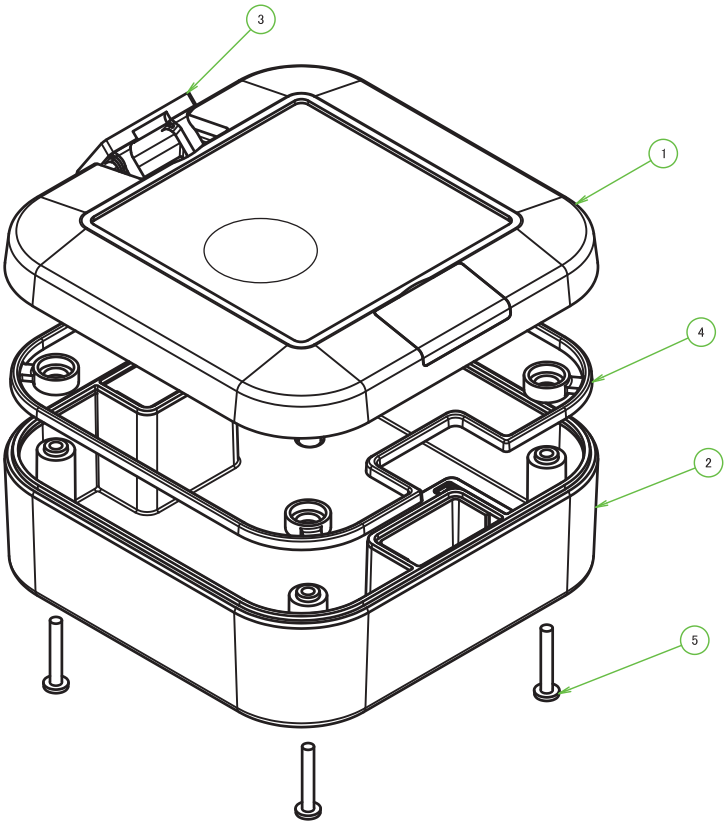
Model Selection Chart

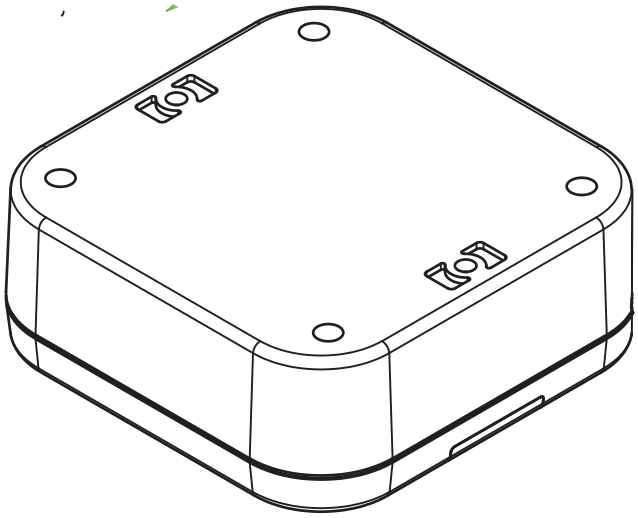
Polwax LX50

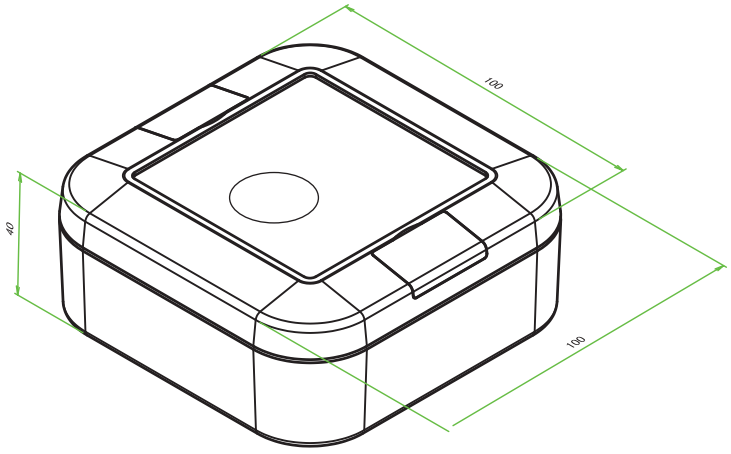


Dimensions

Polwax LX50







Case Study 1: Smart Street Lighting Optimization in Urban Areas

Client: Municipal Smart City Authority

Challenge: The city administration faced high energy consumption due to inefficient street lighting. Conventional lighting systems lacked real-time monitoring, leading to wastage of electricity during low-traffic hours.

Solution: By deploying the Polwax Lux Transmitter LX50 across multiple city locations, the administration was able to monitor real-time lux levels and automatically adjust streetlight intensity based on ambient light conditions. The MQTT connectivity enabled seamless integration with the city's cloud-based smart lighting management system.

Results:
✔ 30% reduction in energy consumption.
✔ Improved street safety with adaptive lighting control.
✔ Significant decrease in operational costs through automated lighting adjustments.

Case Study 2: Greenhouse Light Monitoring for Optimal Plant Growth

Client: Agricultural Research Facility

Challenge: The client needed a reliable system to maintain optimal light intensity for greenhouse crops. Fluctuations in sunlight levels affected plant growth and productivity.

Solution:
The Polwax Lux Transmitter LX50 was installed inside the greenhouse to monitor light levels continuously. The RS485 Modbus RTU interface allowed real-time data acquisition, enabling automated control of artificial lighting to supplement natural sunlight.

Results:
✔ 20% increase in crop yield due to stable light conditions.
✔ Reduced electricity usage by dynamically adjusting artificial lighting.
✔ Enhanced plant growth consistency and quality.

POLWAX Group has got an experienced, highly-qualified project team conducting extensive R&D operations. Owing to that, goods holding the POLWAX brand feature customer-tailored flexibility and meet requirements of various industries.

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